

## Abstracts

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tality rate was the following in case of the most common comorbidities: Mental and behavioural disorders (F00-F99) 16.1%; Malignant neoplasms (C00-C97) 18.9%; Diabetes mellitus and other disorders of glucose regulation and pancreatic internal secretion (E10-E16) 10.4%; Extrapyrimal and movement disorders (G20-G26) 14.3%; Cerebrovascular diseases (I60-I69) 11.8%; Ischaemic heart diseases (I20-I25) 11.3%; Other forms of heart disease (I30-I52) 28.1%; Hypertensive diseases (I10-I15) 8%; decubitus ulcers (L89) 23%; Atherosclerosis (I70) 14.1%; Acute upper and lower respiratory infections (J00-J22) 43.9%; Chronic lower respiratory diseases (J40-J47) 14.3%. **CONCLUSIONS:** The presence of comorbidities increases the chance for mortality. In order to decrease the risk of mortality, one has to treat the comorbidities also. The coexistence of several comorbidities, multiplies the chance of mortality. The mortality values after femoral neck fractures reveals the necessity of comorbidities' treatment emphasizing the importance of postoperative interdisciplinary cooperation.

## POS2

#### LOSS OF TREATMENT BENEFIT DUE TO LOW COMPLIANCE WITH BISPHOSPHONATE THERAPY

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**OBJECTIVES:** To study the association between low compliance with bisphosphonate therapy and the risk of osteoporotic fracture. **METHODS:** New female users of daily or weekly alendronate or risedronate between 1999 and 2004, aged  $\geq 45$  years or with diagnosed post-menopausal osteoporosis were identified from the PHARMO database, including among others linked drug-dispensing and hospitalization data for over two million residents of The Netherlands. Patients were followed from their first bisphosphonate dispensing until their first hospitalisation for osteoporotic fracture, death, or end of the study period. Compliance with bisphosphonates during follow-up was measured over 90-day intervals using the Medication Possession Ratio (MPR), defined as the sum of days' supply of all alendronate and risedronate dispensed to each patient per 90-day interval. Data were analysed univariately and multivariately using time-dependent Cox regression analysis. **RESULTS:** The study cohort included 8822 new female users of alendronate or risedronate. During follow-up, 216 osteoporotic fractures occurred, of which 40 excluded fractures during the first 6 months. The percentage of non-compliant patients (MPR < 80%) increased from 34% after 6 months to 60% after 3 years of follow-up. Non-compliant bisphosphonate use was associated with a 40% increased risk of fracture (95% CI 4%–90%, adjusted for age and fracture history) compared to compliant bisphosphonate use. This corresponds to a 30% loss of treatment benefit. Classifying compliance into 5 categories, fracture risk gradually increased with poorer compliance (p trend < 0.05) to an 80% risk increase with very low compliance (MPR < 20%), corresponding to a 45% loss of treatment benefit. **CONCLUSIONS:** The results of this study show a direct link between level of compliance with oral bisphosphonates and level of fracture risk. Thus, treatment compliance is vital to obtain maximal bone protection. To increase compliance, and therefore treatment benefit, the advent of bisphosphonates with more convenient dosing regimes is important.

## POS3

#### KAPLAN-MEIER SURVIVAL ANALYSIS OF PATIENTS WITH MEDIAL AND LATERAL FEMORAL NECK FRACTURE OVER 60

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**OBJECTIVES:** The purpose of this study was to analyse the 5 year survival rate after medial femoral neck fracture according to type of fracture (medial or lateral) over 60. **METHODS:** The data derives from the financial database of the Hungarian National Health Insurance Fund Administration, based on the tenth revision of the International Classification of Diseases (ICD) with ICD code S7200 and on the Hungarian Diagnosis Related Group (DRG) system. The following patients were included into the study: having social insurance identification number, being discharged in 2000 after primary treatment of femoral neck fracture. The patients with polytrauma were excluded from the study. Statistical analysis was carried out with SPSS 14.0 for Windows. We created Kaplan-Meier survival curves (at 2170 days) and calculated chi-square values (Mantel-Cox log rank test). **RESULTS:** Altogether N = 3783 patients from the whole country were included into the study (mean age =  $77.97 \pm 8.513$ ). 436 patients (mean age =  $78.56 \pm 8.934$ ) had lateral while 3347 patients (mean age =  $77.89 \pm 8.456$ ) had medial femoral neck fracture. One-way analysis of variance (ANOVA) showed no significant difference in the mean age of the two groups of patients ( $F = 2.594$ ,  $P = 0.126$ ). Overall survival at 5 years follow up was 29.36% for patients with lateral and 35.96% for patients with medial femoral neck fracture. Statistical analysis showed that type of fracture had a highly significant effect on mortality (log rank test 14.30,  $df = 1$ ,  $p = 0.0002$ ). **CONCLUSIONS:** We found significant difference in survival of patients depending on the type of femoral neck fracture (medial or lateral). Although survival is influenced by many other factors (e.g. co-morbidities, complications, etc.), the type of fracture is important. We emphasize the role of large administrative databases in order to analyse "real word" data.

## POS4

#### COMPARING THE COST-EFFECTIVENESS OF RHBMP-2 IN THE TREATMENT OF OPEN TIBIA FRACTURES IN GERMANY, FRANCE, AND UK

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**OBJECTIVES:** Recombinant human bone morphogenetic protein (rhBMP2) is a novel biologic therapy that promotes bone growth at the fracture site. We compared the cost and cost-effectiveness of rhBMP-2 in open tibia fractures in Germany, France and UK. **METHODS:** We developed an economic model to compare rhBMP-2 + standard of care (soft tissue management and intramedullary nailing) with standard of care alone. Clinical data was obtained from the BMP-2 Evaluation for Surgery in Tibial Trauma (BESTT) trial and cost data from the national tariffs (German-DRG, UK-NHS, French-Social Security tariffs), reported in 2005 values. Utility weights were assigned to different grades (Gustillo I–IIIB) of open tibia fractures and differences in treatment outcomes were calculated. We performed the analysis from payer's/health care system's perspective for a one year time-horizon. **RESULTS:** In Germany, use of rhBMP-2 for grade III open tibia fractures resulted in cost-savings of €4073 per patient that offsets the upfront cost of rhBMP2 (€2950), repre-